



MATERIALS NEEDED

- 2 sets of 3-by-5-inch cards. Sets are designated by common color.
- 2 labeled containers (large brown bags will work fine)
- Pencils

TIME NEEDED FOR LESSON

About 35-40 minutes.



Cost Analysis

Learner Objectives:

The 4-H member will:

- Learn to figure cost analysis.
- Learn how to determine cost of amount of ingredient used.
- Learn how to figure total cost of dish.
- Learn how to figure cost per serving.

Educational Lesson:

What is cost analysis?

Cost analysis helps us compare price based on the unit versus the whole item. This means that cost analysis helps us understand how much a serving or single item costs instead of the whole ingredient.

Why is cost analysis used?

Cost analysis is used to determine the cost of each portion of the meal that you are cooking. It also helps you determine total cost of dish and cost per serving. This is important so that you won't buy too many ingredients and let them go to waste. Cost analysis can also help you save money if you do it correctly.

How to do cost analysis

Cost analysis is simple. All you have to do is divide the total cost of the item by the number contained in the package. The nutritious facts label will display the number of serving in the package. Once you are done doing this, you know how much each item cost.

Examples of cost analysis: Formula (total cost divided by the # in the package)

Eggs:

A carton of eggs costs \$2.19. There are 12 eggs in each carton.

To figure out the cost per egg, divide 2.19 by 12.

$$2.19/12 = .1825$$

The cost would be 18 cents per egg.

If the recipe you are using calls for 3 eggs, then you multiply .18 by 3.

$$3 \times .18 = .54$$

The total cost of the three eggs to make your recipe is 54 cents.

Bread:

A loaf of bread costs \$1.49.

There are 22 slices in each loaf. Use the formula.

$$1.49/22 = .07 \text{ per slice}$$

If you used 6 slices of bread, then you multiply .07 X 6 = .42 cents

The total cost of the 6 slices of bread would cost you 42 cents.

Activity: Educational Relay

Preparation: Prepare a set of cards for each team (two teams with 15 to 20 cards each). Each set of cards should be the same, but there must be a mark that distinguishes the different teams, or two different colored index cards can be used. Each of the cards will have a different problem of cost analysis on it. Containers can be made for each team to place their cards into once they are done solving the problem (large brown bags work fine), or teams can just create a stack of completed cards.

Rules:

1. Divide youth into two (2) teams are selected, and clear the room to allow running a relay.
2. Each student must start behind a line, pick up a card, talk to their team and solve the cost analysis problem together. Use the pencil that is provided, write down their answer on the card, and then run to place it in the container/bag.
3. They must return to tag the next person in line, and repeat step 2 until all cards are used.
4. The winning team (first to deposit all of their cards in the containers) receives 5 points for best speed; the second team will receive 3 points.
5. The instructor will go to the containers and remove the cards, checking with the groups for correct answers. This can be also be done by using an “honest system” and having each team indicate whether they figured the cost analysis correctly and keeping track of their points. The instructor should talk through each problem with the youth. Each correct answer is worth one (1) point.
6. The team with the highest point total wins.

*****Examples of questions to write on index cards are on the following pages.**

Reflection:

- Why is cost analysis used?
- If you have to use 3 slices of cheese for a recipe, how much are you spending on cheese for your recipe?
- Explain what cost analysis is in your own words.

References

- Gilbert, G. G., Sawyer, R. G., & McNeill, B. (2011). *Methods of instruction/intervention. Health Education: Creating Strategies for School and Community Health (3rd Ed)* (pp. 127-128). Sudbury, Mass: Jones and Bartlett Publishers. Adapted by Abby Melendez (2015).
- McVety. (2009). *Determining portion costs and selling prices* (pp. 91-92). Kendall Hunt Publishing. Adapted by Abby Melendez (2015).

Examples of cards:

Ex. 1

If the cost of Ritz crackers is \$3.27, what is the cost per serving?



RITZ

Nutrition Facts
Serving Size 5 Crackers (16g)
Servings Per Container About 28

Amount Per Serving
Calories 80 Calories from Fat 35

	% Daily Value*
Total Fat 4g	6%
Saturated Fat 1g	4%
Cholesterol 0mg	0%
Sodium 135mg	6%
Total Carbohydrate 10g	3%
Dietary Fiber 0g	0%
Sugars 1g	
Protein 1g	
Vitamin A 0% • Vitamin C 0%	
Calcium 2% • Iron 4%	

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Ex.2

If the cost of Domino sugar is \$2.49, what is the cost per serving?



Nutrition Facts
Serving Size 1 Tsp (3g)
Servings Per Container about 132

Amount Per Serving
Calories 10

	% Daily Value*
Total Fat 0g	0%
Sodium 0mg	0%
Total Carbohydrate 3g	1%
Sugars 3g	
Protein 0g	

*Percent Daily Values are based on a 2,000 calorie diet.

100% Whole Wheat Bread	
Nutrition Facts	
Serving Size 1 slice(28g)	
Servings Per Container 20	
Amount Per Serving	
Calories 70	Calories from Fat 10
% Daily Value*	
Total Fat 1g	1%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 135mg	4%
Total Carbohydrate 13g	2%
Dietary Fiber 2g	7%
Sugars 2g	
Protein 3g	
Vitamin A 0%	Calcium 6%
Vitamin C 0%	Iron 4%
Niacin 20%	Vitamin E 10%
Thiamin 6%	Riboflavin 2%
Folic Acid 4%	
*Percent Daily Values are based on a 2,000 calorie diet.	
†Your Daily Values may be higher or lower depending on your calorie needs.	
	Calories 2000 2500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400m 2400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

Ex. 3

If the cost of Nature's Own Bread is \$2.89, what is the cost per serving?

Nutrition Facts	
Serving Size 1 egg (50g)	
Servings per Container 12	
Amount Per Serving	
Calories 70	Calories from Fat 45
% Daily Value*	
Total Fat 5g	8%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 185mg	62%
Sodium 70mg	3%
Potassium 70mg	2%
Total Carbohydrate 0g	0%
Protein 6g	12%
Vitamin A 6%	Vitamin C 0%
Calcium 2%	Iron 4%
Vitamin D 10%	Thiamin 0%
Riboflavin 15%	Vitamin B6 4%
Folate 6%	Vitamin B12 8%
Phosphorus 10%	Zinc 4%
Not a significant source of dietary fiber and sugars.	
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Potassium	3,500mg 3,500mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Protein	50g 65g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

Ex. 4

If the cost of a carton of eggs is \$2.49, what is the cost per serving?



Ex. 5

If the cost of frozen broccoli is \$1.47, what is the cost per serving?



Ex. 6

If the cost of Barilla Tri-Color Rotini is \$1.69, what is the cost per serving?



Ex. 7

If the cost of ranch dressing \$2.78, what is the cost per serving?

INGREDIENTS: WATER, VEGETABLE OIL (SOYBEAN AND/OR CANOLA), MALTODEXTRIN, BUTTERMILK SUGAR, SALT, LESS THAN 2% OF: SPICES, DRIED GARLIC, DRIED ONION, NATURAL FLAVORS (SOY) EGG YOLK, MODIFIED FOOD STARCH, PHOSPHORIC ACID, VINEGAR, ARTIFICIAL FLAVOR, DISODIUM PHOSPHATE, XANTHAN GUM, MONOSODIUM GLUTAMATE, ARTIFICIAL COLOR, DISODIUM INOSINATE DISODIUM GUANYLATE, SORBIC ACID AND CALCIUM DISODIUM EDTA AS PRESERVATIVES.

CONTAINS: MILK, SOY, EGG.

GLUTEN-FREE.

Nutrition Facts	Amount/Serving	% DV*	Amount/Serving	% DV*
	Serv. Size 2 Tbsp (30mL) Servings about 35 Calories 80 Calories from fat 70	Total Fat 7g	10%	Total Carb. 3g
	Sat. Fat 1g	5%	Fiber 0g	0%
	Trans Fat 0g		Sugars 2g	
	Cholest. 5mg	1%	Protein 1g	
	Sodium 260mg	11%		
* Percent Daily Values (DV) are based on a 2,000 calorie diet.	Vitamin A 0%	•	Vitamin C 0%	
	Calcium 2%	•	Iron 0%	



Ex. 8

If the cost of a bag of Fritos Original Corn Chips is \$3.98, what is the cost per serving?

Nutrition Facts	
Serving Size: 4 oz. (112g)	
Servings Per Container: 4	
Amount Per Serving	
Calories 170	Cal. from Fat 70
% Daily Value*	
Total Fat 8g	12%
Saturated Fat 3.5g	18%
Trans Fat 0.5g	
Cholesterol 70mg	23%
Sodium 75mg	3%
Total Carbohydrate 0g	0%
Protein 23g	
Iron 15%	
Not a significant source of dietary fiber, sugars, vitamin A, vitamin C and calcium.	
*Percent Daily Values are based on a 2,000 calorie diet.	

Ex. 9

If the cost of a 1 pound package of ground beef is \$5.47, what is the cost per serving?

Nutrition Facts	
Serving Size 1 cup (249g)	
Servings Per Container 8	
Amount Per Serving	
Calories 210	Calories from Fat 80
% Daily Value*	
Total Fat 8g	13%
Saturated Fat 5g	26%
Trans Fat 0g	
Cholesterol 30mg	10%
Sodium 200mg	9%
Total Carbohydrate 27g	9%
Dietary Fiber 1g	5%
Sugars 25g	
Protein 9g	
Vitamin A 6%	• Vitamin C 0%
Calcium 30%	• Iron 6%
Vitamin D 30%	
*Percent Daily Values are based on a 2,000 calorie diet.	

Ex. 10

If the cost of a half gallon of chocolate milk is \$1.92, what is the cost per serving?

CHICKEN NOODLE SOUP

Nutrition Facts

Serving Size 1 cup (240g)
 Servings Per Container about 2

Amount Per Serving

Calories 90 **Calories from Fat** 15

% Daily Value*

Total Fat 1.5g **2%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 5mg **2%**

Sodium 760mg **32%**

Total Carbohydrate 14g **5%**

Dietary Fiber 2g **8%**

Sugars 0g

Protein 4g

Vitamin A 30% • Vitamin C 0%

Calcium 25% • Iron 25%

Vitamin D 20% • Thiamin 20%

Riboflavin 20% • Niacin 20%

Folic Acid 20%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ex. 11

If the cost of a can of chicken noodle soup is \$1.58, what is the cost per serving?

Nutrition Facts

Serving Size 1 bar (40g)
 Servings Per Container 5

Amount Per Serving

Calories 140 **Calories from Fat** 30

% Daily Value*

Total Fat 3g **5%**

Saturated Fat 0.5g **4%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 95mg **4%**

Total Carbohydrate 30g **10%**

Dietary Fiber 9g **35%**

Sugars 10g

Protein 2g

Calcium 10% • Iron 2%

Not a significant source of vitamin A and vitamin C.

* Percent Daily Values are based on a 2,000 calorie diet.

Ex. 12

If the cost of a box of Fiber One granola bars is \$2.50, what is the cost per serving?

Spaghetti Sauce - No Salt, Organic

12/25 oz

Nutrition Facts

Serving Size 1/2 cup (120g)
Servings Per Container About 6

Amount Per Serving

Calories 70 Calories from fat 25
% Daily Value*

Total Fat 2.5g **4%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 10mg **0%**

Potassium 330mg **9%**

Total Carbohydrate 9g **3%**

Dietary Fiber 5g **20%**

Sugars 4g

Protein 2g **4%**

Vitamin A 20% • Vitamin C 20%

Calcium 4% • Iron 10%

Thiamin (B1) 8% • Riboflavin (B2) 6%

Niacin (B3) 8% • Folate 2%

Phosphorus 4% • Magnesium 8%

Zinc 2%

*Percent Daily Values are based on a 2,000 calorie diet.

Ex. 13

If the cost of a jar of spaghetti sauce is \$3.93, what is the cost per serving?



100% JUICE

Nutrition Facts

Serving Size 8 fl. oz. (240 mL)
Servings Per Container 7

Amount Per Serving

Calories 110 Calories from Fat 0

% Daily Value*

Total Fat 0g **0%**

Sodium 0mg **0%**

Potassium 450mg **13%**

Total Carbohydrate 26g **9%**

Sugars 22g

Protein 2g

Calcium 2% • Iron 0% • Vitamin C 120%

Niacin 4% • Thiamine 10%

Vitamin B6 6% • Folate 15%

Not a significant source of calories from fat, trans fat, saturated fat, cholesterol, dietary fiber, vitamin A and iron. Percent Daily Values are based on a 2,000 calorie diet.

Ex. 14

If the cost of a carton of orange juice is \$3.38, what is the cost per serving?

Ingredients: Organic orange juice

Nutrition Facts

Serving Size 1/2 Cup (55g)
Servings Per Container About 8

Amount Per Serving

Calories 240 **Calories from Fat 60**

	% Daily Value*
Total Fat 6g	9%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 150mg	6%
Total Carbohydrate 40g	13%
Dietary Fiber 6g	24%
Sugars 10g	
Protein 6g	12%

Vitamin A 0% • Vitamin C 0%
Calcium 2% • Iron 100%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat. Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Protein		50g	65g

Ex. 15

If the cost of a box of cereal is \$3.22, what is the cost per serving?



Ex. 16

If the cost of a rotisserie chicken is \$6.99, what is the cost per serving?

Ex. 17

If the cost of a package of Oreo's is \$2.98, what is the cost per serving?



Nutrition Facts
Serving Size 2 cookies (29g)
Servings Per Container about 10

Amount Per Serving	
Calories 140	Calories from Fat 60
% Daily Value *	
Total Fat 7g	11%
Saturated Fat 2g	10%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 60mg	3%
Potassium 50mg	1%
Total Carbohydrate 21g	7%
Dietary Fiber Less than 1g	2%
Sugars 13g	
Protein Less than 1g	

Ex. 18

If the cost of a pint carton of Ben & Jerry's ice cream is \$3.97, what is the cost per serving?



Nutrition Facts
Serving Size 1/2 cup (101g)
Servings Per Container 4

Amount Per Serving	
Calories 260	Calories from Fat 130
% Daily Value*	
Total Fat 15g	23%
Saturated Fat 9g	44%
Trans Fat 0g	
Cholesterol 60mg	20%
Sodium 80mg	3%
Total Carbohydrate 28g	9%
Dietary Fiber 1g	3%
Sugars 23g	
Protein 4g	
Vitamin A 10%	• Vitamin C 0%
Calcium 15%	• Iron 4%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:



Nutrition Facts	
Serving Size ¼ cup (30g)	
Servings Per Container about 75	
Amount Per Serving	
Calories	100
	% Daily Value*
Total Fat 0g	0%
Sodium 0mg	0%
Potassium 40mg	1%
Total Carbohydrate 22g	7%
Dietary Fiber less than 1g	2%
Sugars less than 1g	
Other Carbohydrate 21g	
Protein 3g	
Iron	6%
Thiamin	10%
Riboflavin	6%
Niacin	8%
Folic Acid	10%

Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, vitamin A, vitamin C and calcium.

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Potassium		3,500mg	3,500mg
Total Carbohydrate		300g	375g
Dietary Fiber		20g	30g

Ingredients: Bleached Wheat Flour, Malted Barley Flour, Niacin (A B Vitamin), Iron, Thiamin Mononitrate (Vitamin B₁), Riboflavin (Vitamin B₂), Folic Acid (A B Vitamin).

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Ex. 19

If the cost of Gold Medal's All Purpose Flour is \$2.46, what is the cost per serving?



Ex. 20

If the cost of blueberry PopTarts is \$1.98, what is the cost per serving?

Answers for examples

1. \$0.12

2. \$0.02

3. \$0.14

4. \$0.20

5. \$0.07

6. \$0.28

7. \$0.08

8. \$0.36

9. \$1.37

10. \$0.24

11. \$0.79

12. \$0.50

13. \$0.66

14. \$0.48

15. \$0.40

16. \$0.87

17. \$0.30

18. \$0.99

19. \$0.03

20. \$0.25